

Date: Tuesday, 19/08/2008 11:22:50 AM  
 User: Julie.Lecocq

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : OH-58 AFT X-TUBE ASSEMBLY  
 Job Number : 41399  
 Estimate Number : 10246  
 P.O. Number :  
 This Issue : 19/08/2008 S.O. No. :  
 Prsht Rev. : NC  
 First Issue : / / Type : CROSSTUBES  
 Previous Run : 37718  
 Written By :  
 Checked & Approved By : JUD 08.8.19  
 Comment : Est Rev:E 04.02.16 Reformat KJ/DS

Part Number : D058676201  
 Drawing Number : D058-676-241 LWR *A2* *01.08.20*  
 Project Number : N/A  
 Drawing Revision : A2 *B* *01.10.22*  
 Material :  
 Due Date : 05/09/2008 Qty: 1 Um: Each

**POSITIVE RECALL**

## Additional Product

**PRELIMINARY ISSUE**

Job Number:



Seq. #	Machine Or Operation:	Description:
1.0	DC	DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D058-676-201CH0001

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

D058676201TRN

Crosstube Turning Detail



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

CROSSTUBE TURNING DETAIL

batch *B37718*

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE

Bend tube as per Dwg D058-676-241 using CNC bender program OH58-af and Folio FT

QC6

DIMENSIONAL CHECK



Comment: Inspect dimensions and work To Current Step

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D058-676-241 using drill Jig DT8541 &amp; DT8542

2-Ream hole to finish size in tube as per Dwg D058-676-241 using drill Jig DT8541 &amp; DT8542. Check

*08-10-09*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 19/08/2008 11:22:50 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: OH-58 AFT X-TUBE ASSEMBLY

Job Number: 41399

Part Number: D058676201

Job Number:



Seq. #:

Machine Or Operation:

Description :

dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D058-676-241

4-Scribe part # and batch # using vibrating stylus as per Dwg D058-676-241

Inside of Cuff(Donot engrave on outside of tube)

AT 08-10-09

7.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

1-Pressure wash as per QSI 005

2-Chemical Conversion Coat as per QSI 005 4.1 within 24 hours of bending and drilling

AWM 8-10-14

8.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

SOS 10/14 @

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/10/14 @

10.0

OUTSIDE SERV.10

OUTSIDE SERVICES -skids



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 0380

Issue P/O: 7407

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

C208/10/21 @

11.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage Ensure copy of NDT results attached to work order.

10/14/20 @

12.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D058-676-241

10-10-20 @

P10

13.0

SPRAY PAINTING

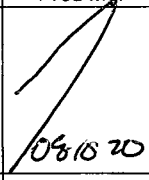
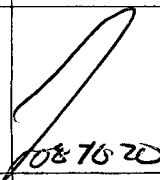
SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

AT 08-10-21

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
08-10-20	120	QCS required. Perm. change				 08/10/20	 08/10/20

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 19/08/2008 11:22:51 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: OH-58 AFT X-TUBE ASSEMBLY

Job Number: 41399

Part Number: D058676201

Job Number:



Seq. #:

Machine Or Operation:

Description :

2-Paint outside crosstube with White Imron as per QSI 005 4.2

2T 08-10-21

14.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Then, Wrap in plastic bag to protect from scratches

2T 08-10-21

15.0

D2856400

Abrasion Strip



Comment: Qty.: 0.5800 f(s)/Unit Total : 0.5800 f(s)

Pick:

Qty Part number Description Batch

2 D2856-400-694 Abrasion Strip

PTD

16.0

D28911

2.25 Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2891-1 Support 37655

2T 08-10-21

17.0

MS2192020

Clamp (per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-20 Clamp

PTD

18.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install abrasion strips as per QSI 035 using DT8579

2-Install supports and clamps as per Dwg D058-676-241 Torque clamps to 80-100 in lb.

2T 08-10-23

19.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

ENGINEERING  
APPROVAL

S 08/07/23

PT 08-10-23

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
06.10.22	15 17 18	SEE ATTACHED Rev B  <u>REMOVE</u> D2856-400-694 (2) MS21920-20 (4)	<u>ADD</u> Magnabond 6398 MS21920-20 (4)  D3595-075-400 (4) p Rubber	108966 <del>+07356</del> 10750  40220	06.10.22	ALL	06.10.22	S 06/10/23

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 19/08/2008 11:22:51 AM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: OH-58 AFT X-TUBE ASSEMBLY

Job Number: 41399

Part Number: D058676201

Job Number:



Seq. #: Machine Or Operation: Description :

20.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

21.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

4 AN5-32A

Bolt

M69001

JS 08/10/23 (X)

22.0

AN960JD516

Washer



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

8 AN960JD516

Washer

M69059

JS 08/10/23 (X)

23.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part number

Description Batch

4 MS21042L5

Nut (or -5)

M108827

JS 08/10/23 (X)

24.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

Sooluliz (X)

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPF D058-676-201

Location:

Rev A 8/11/17 SD

POSITIVE RELEASE

EFFECTIVE 08.10.22

AUTH M

RELEASED

DATE

08.11.17

26.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/11/17 (X)

ECN 08-563  
M6 08-11-17

Job Completion



8 676 201 B 41399

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

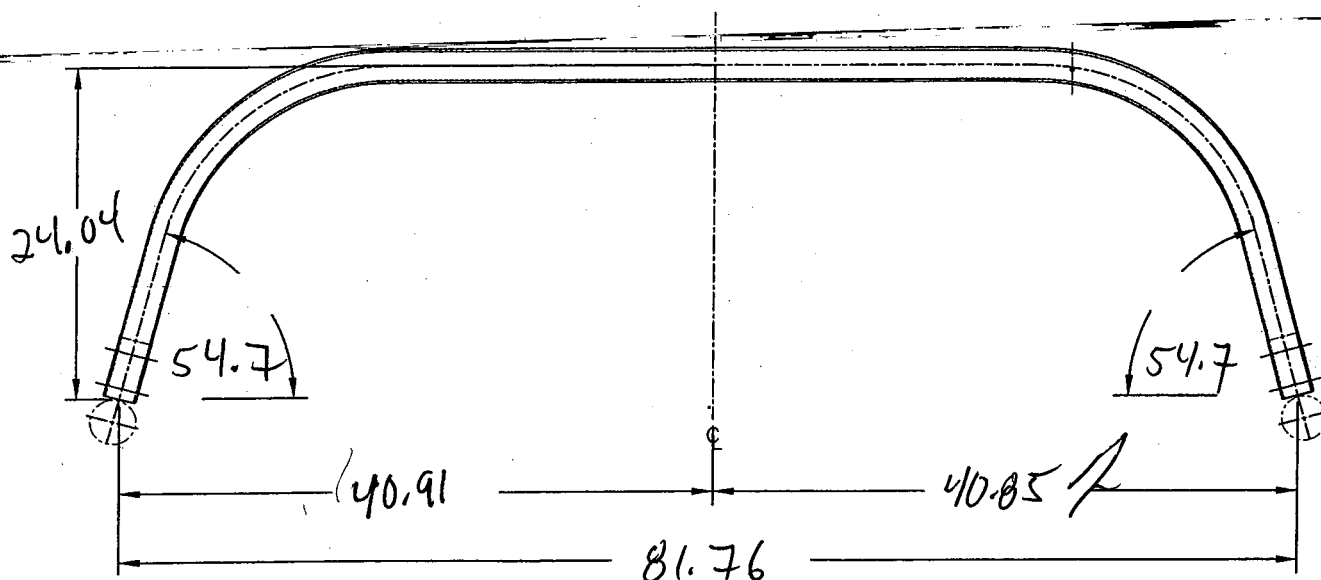
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DART AEROSPACE LTD		Work Order:	41399
Description: Crosstube High Aft (OH-58)		Part Number:	D058-676-201
Inspection Dwg: D058-676-241 Rev: A2		Page 1 of 1	

Required Dimension	Min	Max
Height	23.92	24.04
1/2 Span	40.86	40.98
Angle	54	56
Total Span	81.72	81.96



Comments

QC15 Inspection	
Date	08/10/09

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	



DESIGN CP	DRAWN BY CP	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D058-676-241	REV. A SHEET 1 OF 3
DATE 00.11.17		TITLE CROSSTUBE ASS'Y (OH-58 HIGH AFT) NTS	SCALE
A	00.11.17	NEW ISSUE	

Qty	Part Number	Description
X	D058-676-241	CROSSTUBE ASSEMBLY (OH-58 HIGH AFT)
1	D6007-106	CROSSTUBE
2	D2856-400-694	ABRASION STRIP
2	D2891-1	SUPPORT
4	MS21920-20	CLAMP

#### GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6007-106  
FINISHED LENGTH = 103.51±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-694 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2891-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

**UNDER REVIEW**

06.10.18 DH  
Update view 0-0  
# 06.08.20

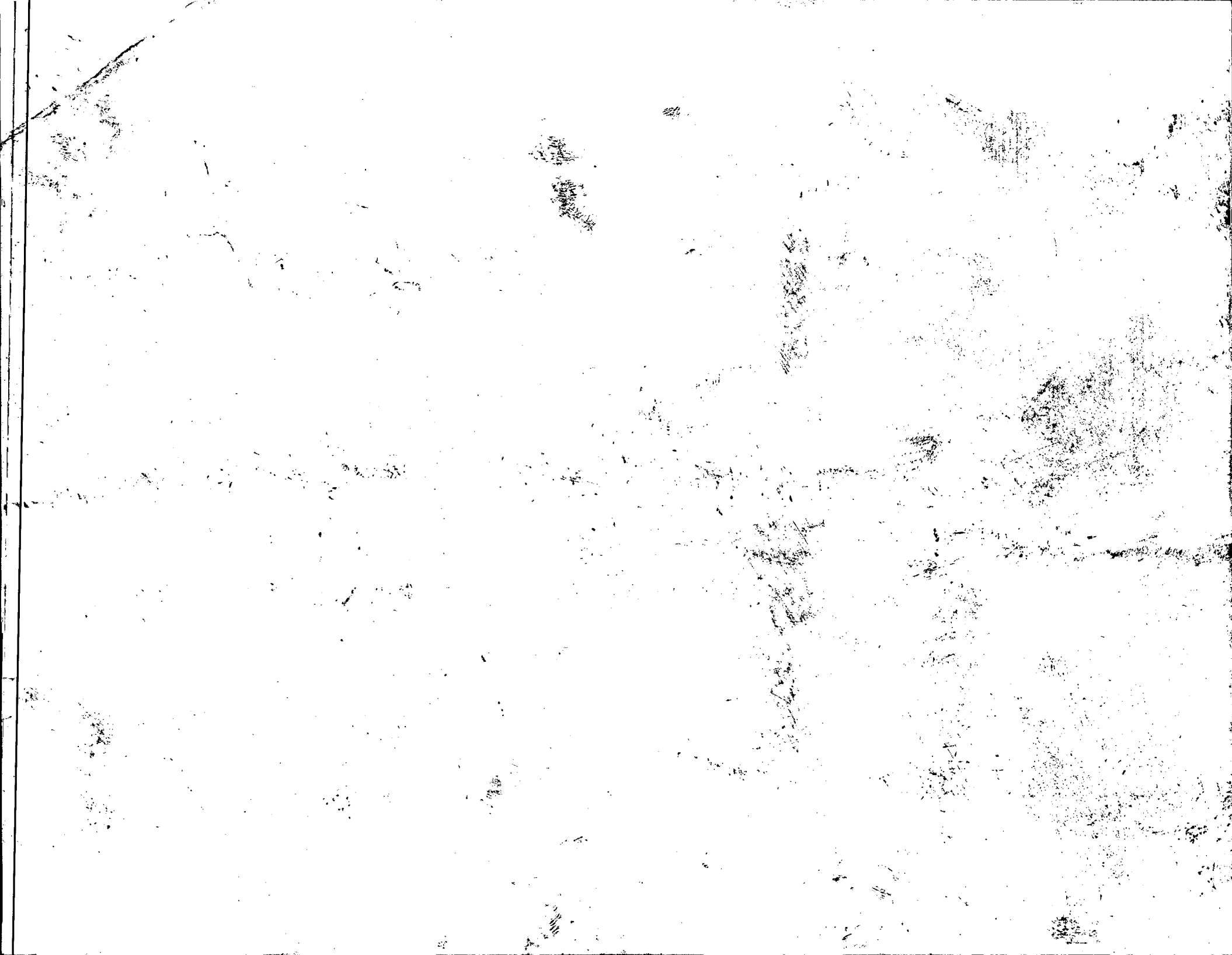
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NO. 41399

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00.11.24 #

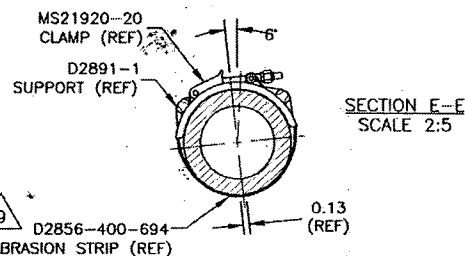
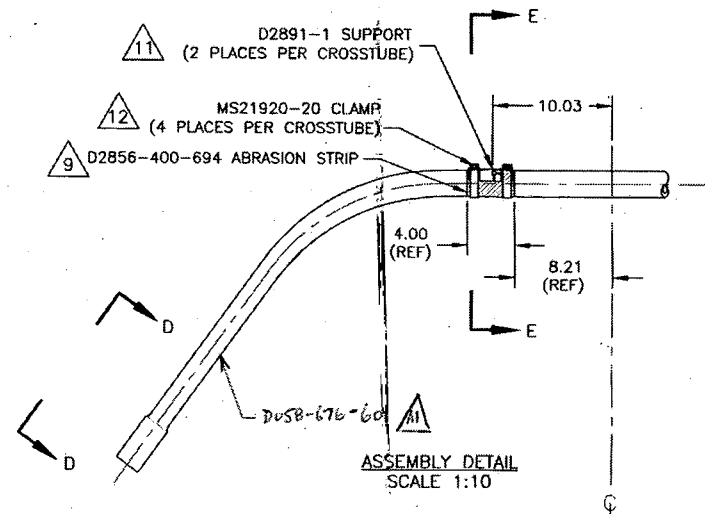
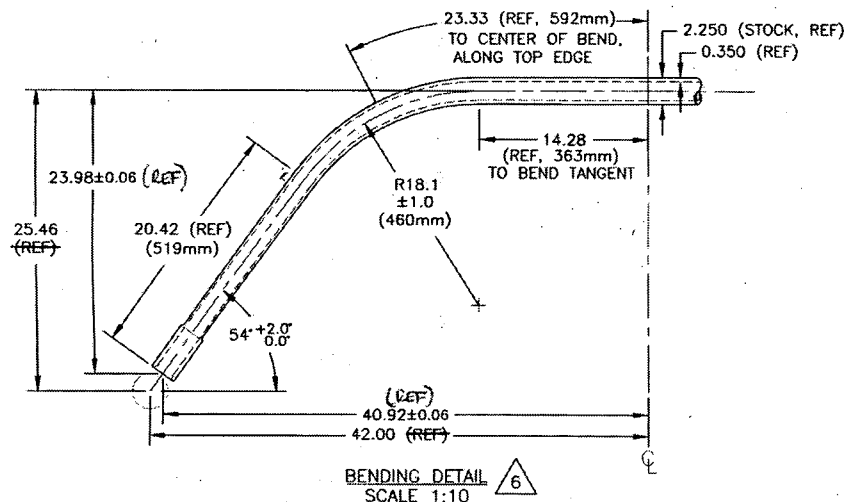
A2	01.07.16	UPDATE DIM TO FIRST HOLE	# CP
A1	01.03.07	ADD D058-676-601 P/N	# CP

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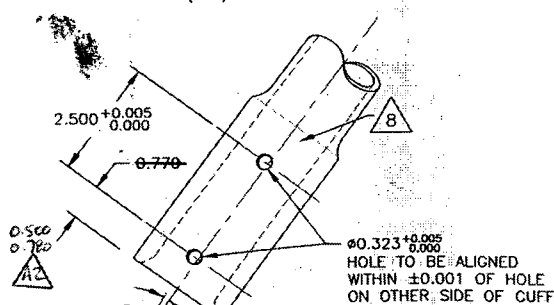
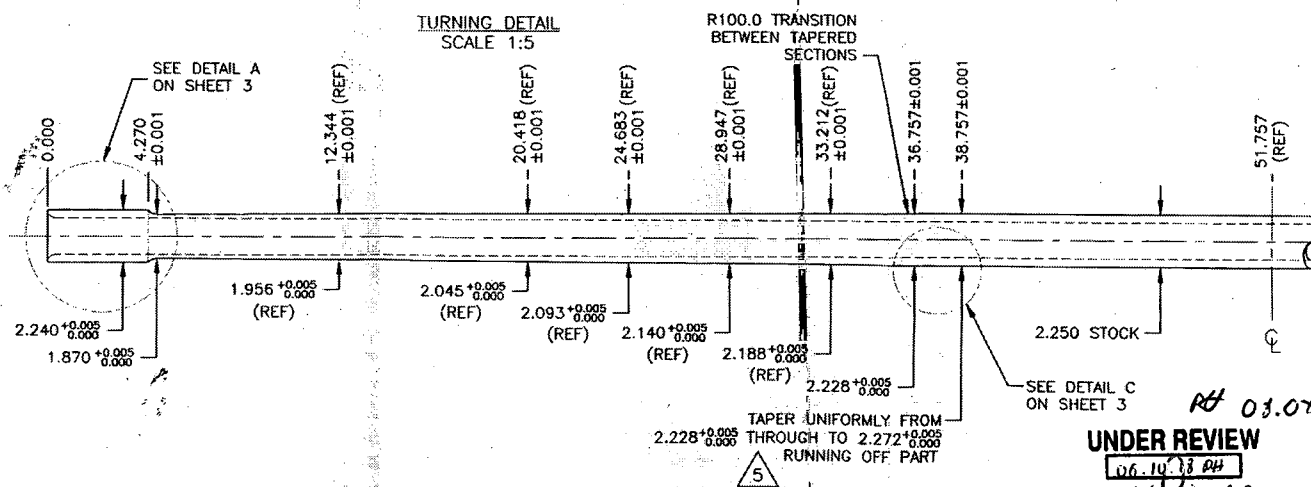
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00-11-24



TURNING DETAIL  
SCALE 1:5



UNDER REVIEW

06.10.18 AH  
update view 0-0

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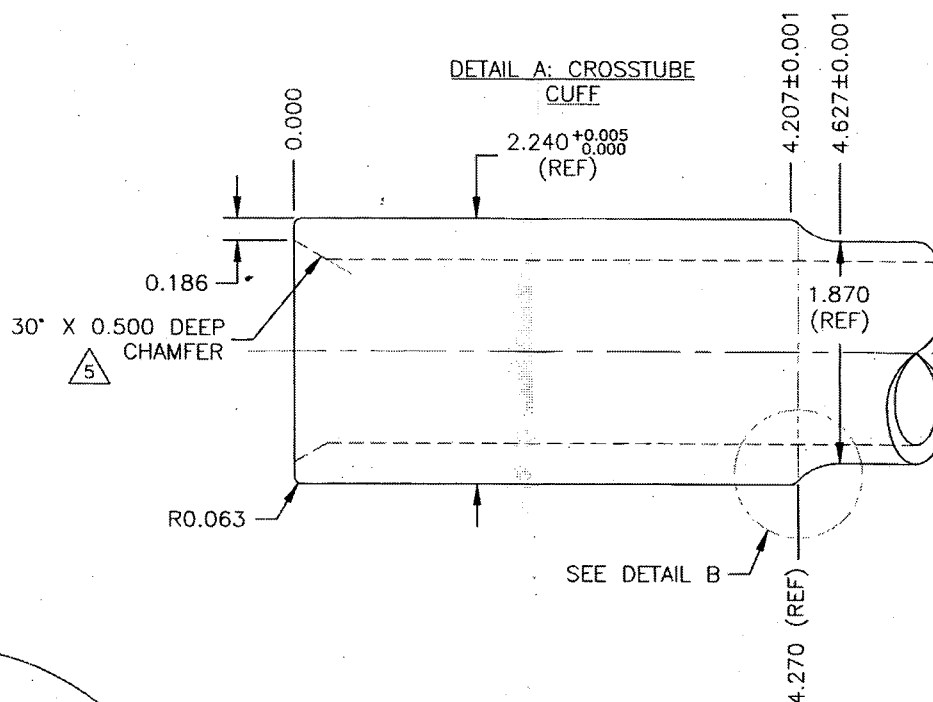
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DATE

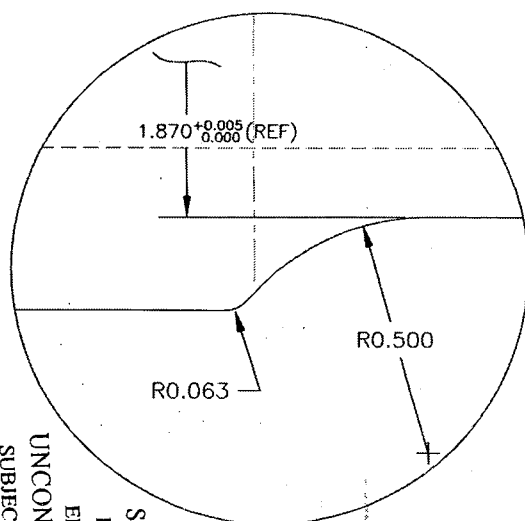
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HARRISBURG, ONTARIO, CANADA  
DRAWING NO.  
D058-676-241  
TITLE  
CROSSTUBE ASS'Y (OH-58 HIGH AFT)  
REV. A  
SHEET 2 OF 3  
SCALE  
1:10

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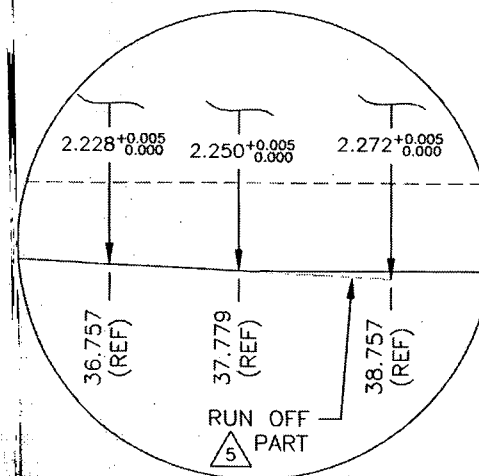
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00.11.24



08.08.20  
UNDER REVIEW  
06.10.17  
Update View 0-0



DETAIL B:  
CUFF TRANSITION  
SCALE 4:1



DETAIL C:  
TAPER RUN-OFF  
NOT TO SCALE

NO. 4132  
WORK ORDER  
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DATE		00.11.17		DRAWING NO.	REV. A
				D058-676-241	SHEET 3 OF 3
				TITLE	SCALE
				CROSSTUBE ASS'Y (OH-58 HIGH AFT)	1:1





P- 09128

PAGE 1 OF 1

Qty -241	Part Number	Description
X	D058-676-241	CROSSTUBE ASSEMBLY (OH-58 HIGH AFT)
1	D6007-106	CROSSTUBE
2	D2891-1	SUPPORT
4	D3595-075-400	RUBBER CUSHION
4	MS21920-22	CLAMP (OR MS21920-21)
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

MSHA  
17521920-20  
KAT 06.10.22

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6007-106  
FINISHED LENGTH = 103.51±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D058-676-241" AND BATCH NUMBER ON  
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 19.0 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY,  
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 12 PASSES. MAXIMUM TUBE FLATTERING DUE  
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER  
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS (OR -21) WITH D3595-075-400 RUBBER CUSHIONS TO SECURE  
THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS  
ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS  
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT  
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY  
AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

PRELIMINARY ISSUE  
06.10.22

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WORK ORDER  
NO. 41377

B	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-075-400 WAS D2856-400-694 (ZN D6-2 & A5-2); MS21920-22 WAS MS21920-20 (ZN D6-2 & B5-2); 0.780/500 WAS 0.700 (ZN B7-3); ADD/REMOVED REF. & ADD TOLERANCES (ZN D7-3, C4-3, C5-3 & D3-3); RELOCATED FLAG #6 (ZN A7-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.09.22
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.09.22		

<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D058-676-241	REV. B SHEET 1 OF 4
TITLE CROSSTUBE ASS'Y (OH-58 HIGH AFT)	SCALE NTS
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D

C

B

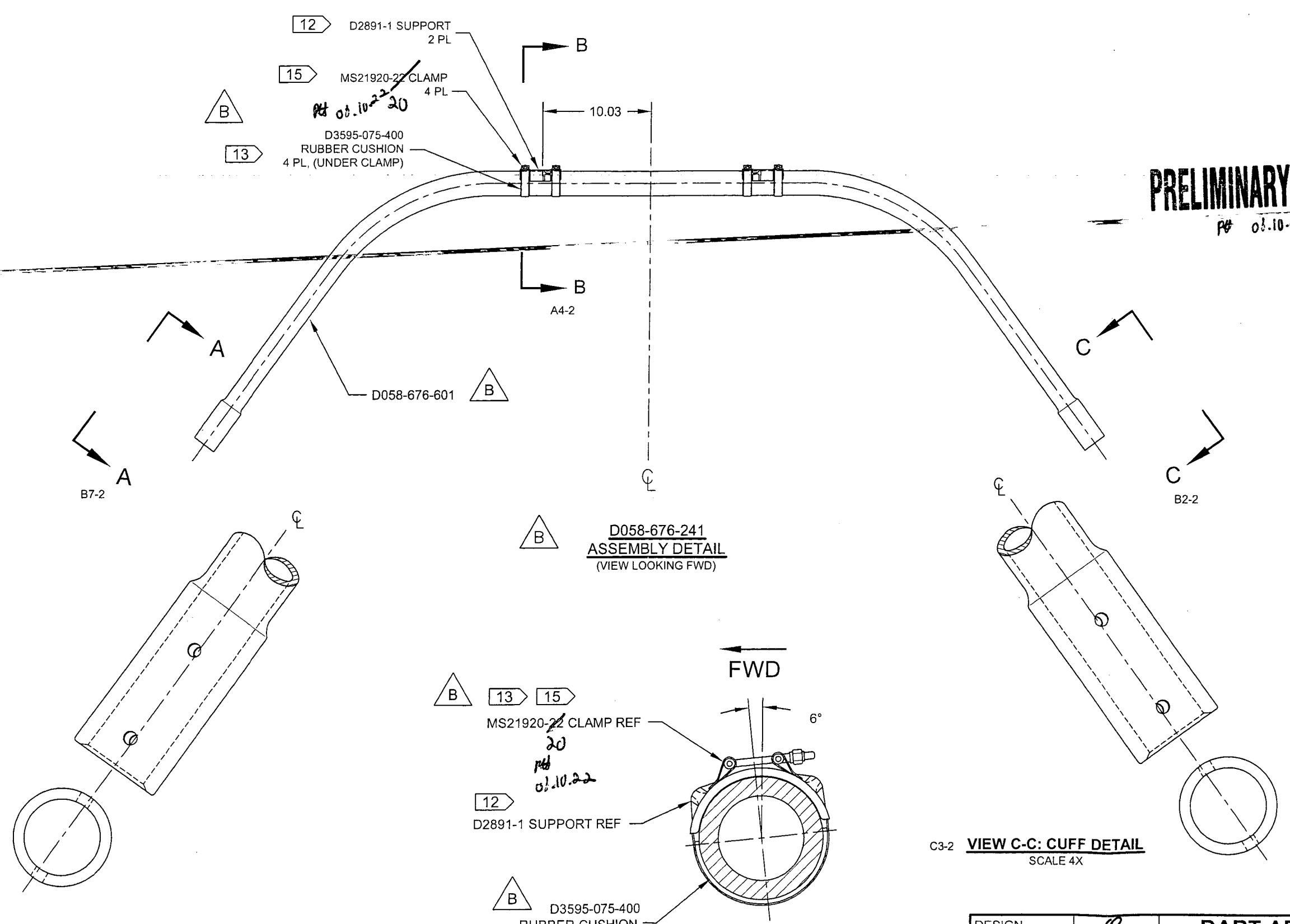
A

D

C

B

A



**PRELIMINARY ISSUE**





PH 08.10.22

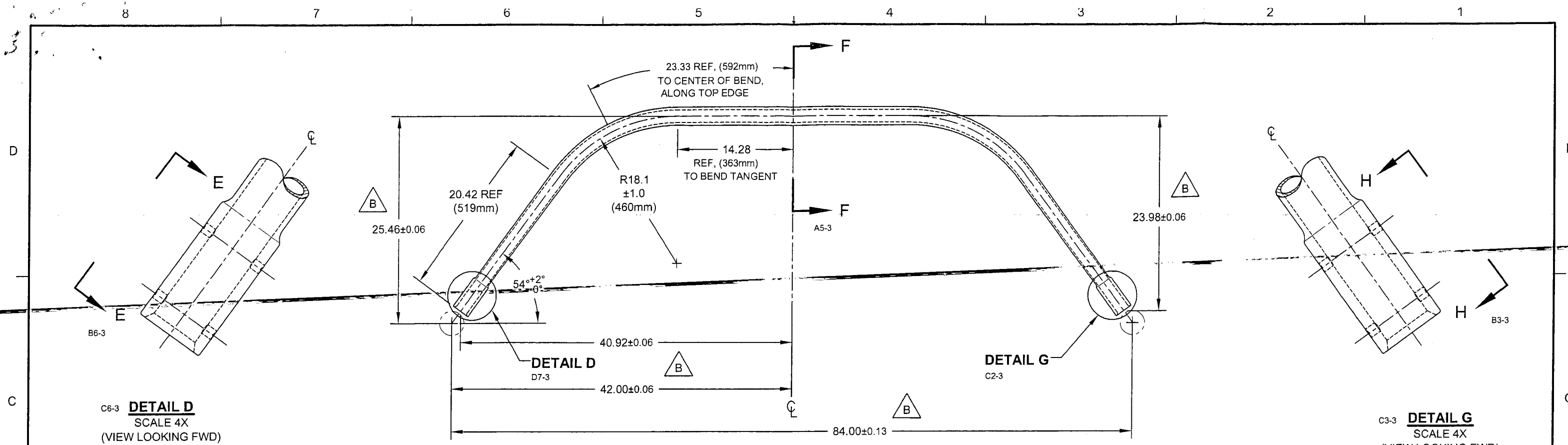
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WITHOUT NOTICE  
WORK ORDER  
NO. 41399

C6-2 **VIEW A-A: CUFF DETAIL**  
SCALE 4X

C3-2 **VIEW C-C: CUFF DETAIL**  
SCALE 4X

D5-2 **SECTION B-B**  
SCALE 5X

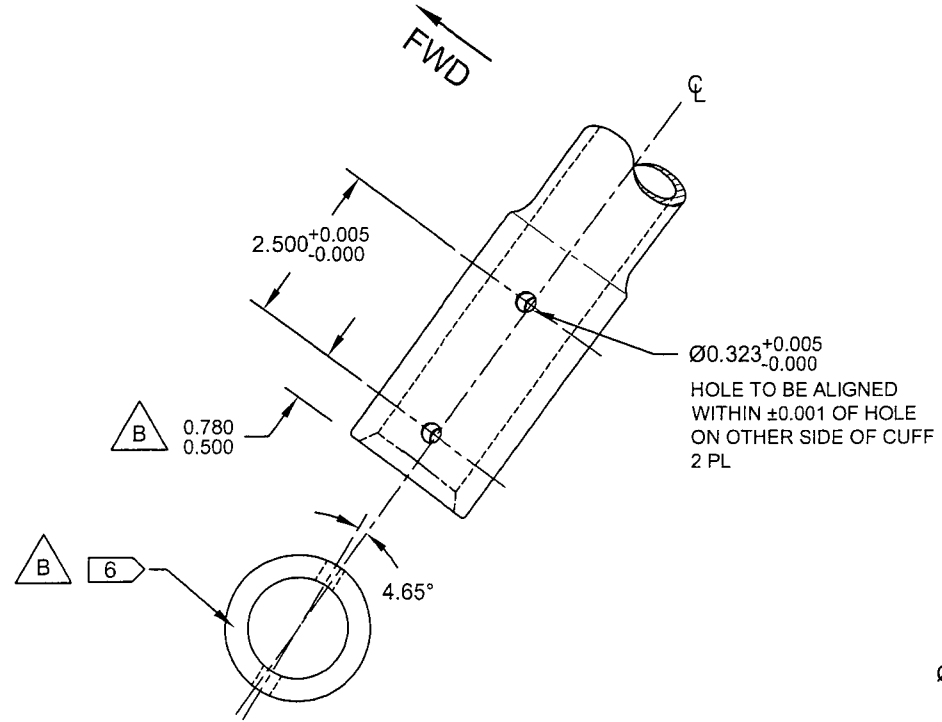
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DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D058-676-241	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (OH-58 HIGH AFT)	NTS
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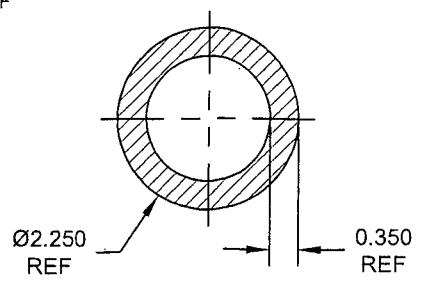
C6-3 **DETAIL D**  
SCALE 4X  
(VIEW LOOKING FWD)

C3-3 **DETAIL G**  
SCALE 4X  
(VIEW LOOKING FWD)

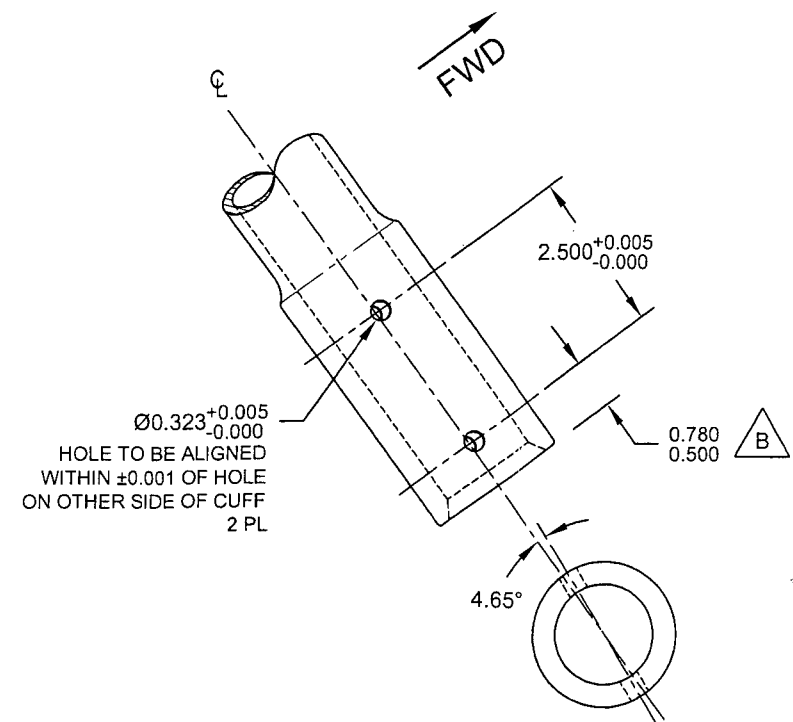
**D058-676-601**  
**BENDING AND DRILLING DETAIL**  
(VIEW LOOKING FWD)



D7-3 **VIEW E-E:  
CUFF DETAIL**  
SCALE 4X



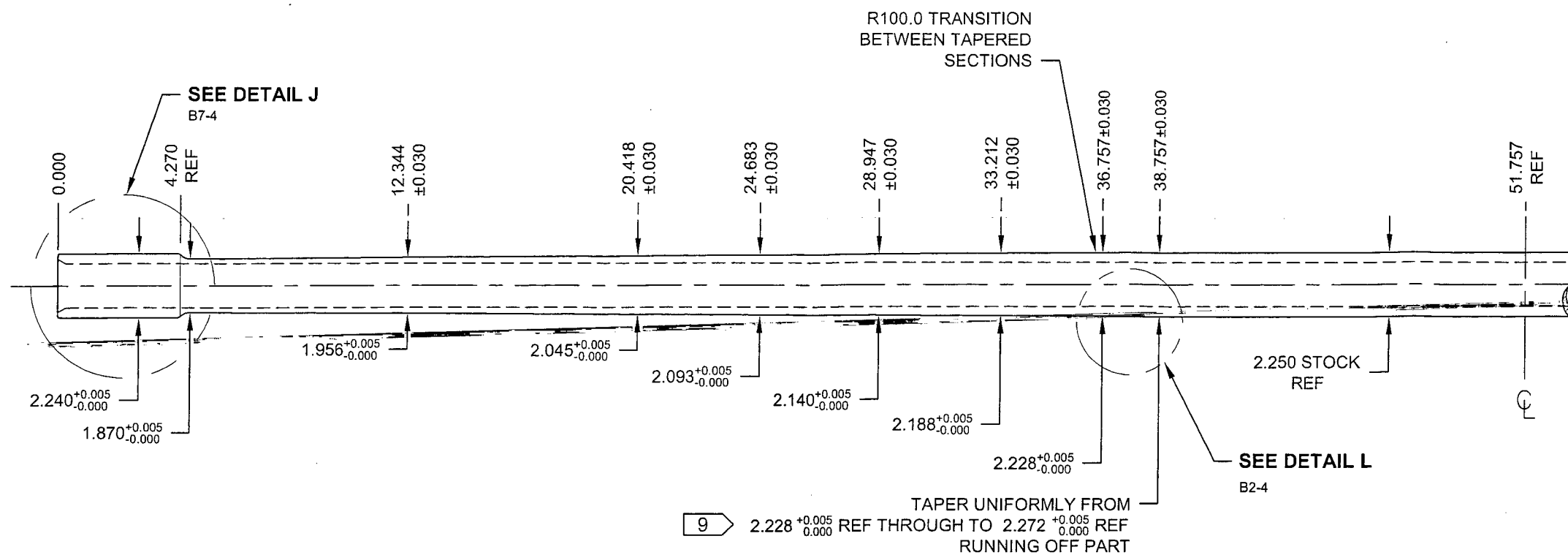
D5-3 **SECTION F-F**  
SCALE 5X



C2-3 **VIEW H-H:  
CUFF DETAIL**  
SCALE 4X  
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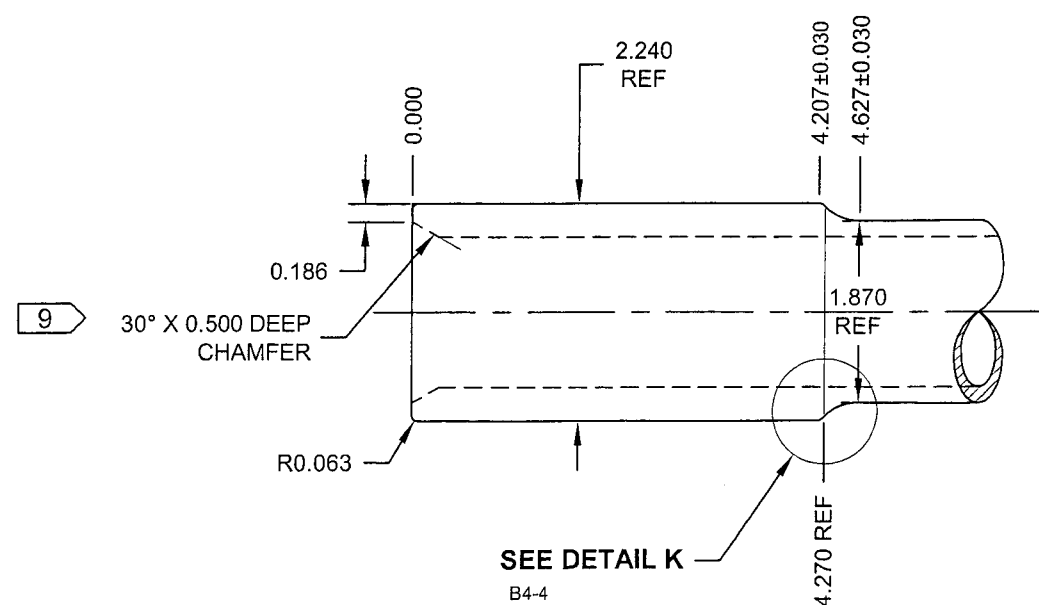
**PRELIMINARY ISSUE**  
P# 08.10.22

DESIGN	RF	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.		D058-676-241	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (OH-58 HIGH AFT)	NTS
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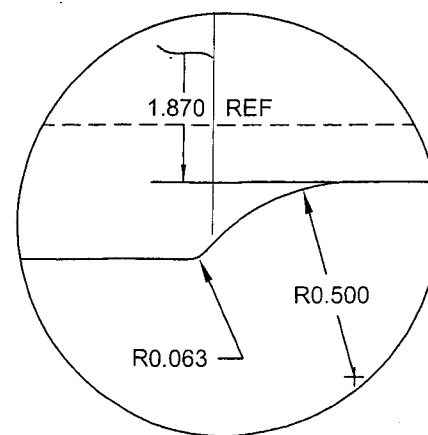


**PRELIMINARY ISSUE**  
 PL 01.10.22

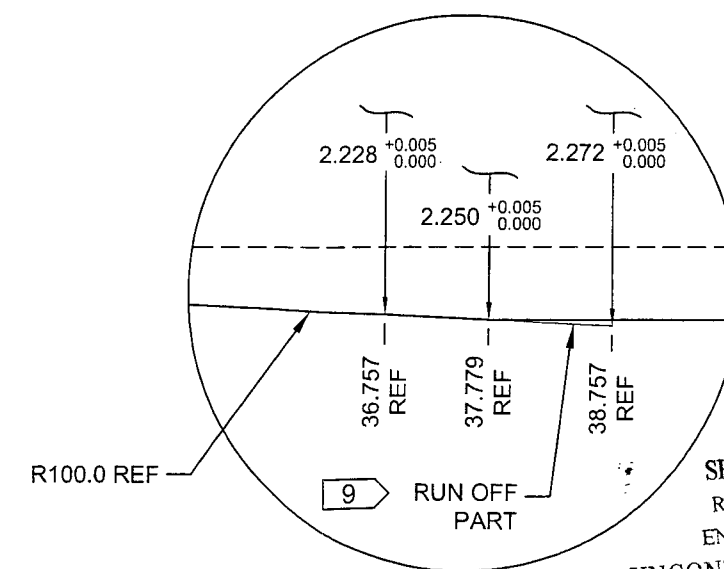
**B TURNING DETAIL**



**DETAIL J:  
CROSSTUBE CUFF**  
 NOT TO SCALE  
 D7-4



**DETAIL K:  
CUFF TRANSITION**  
 NOT TO SCALE  
 A6-4



**DETAIL L:  
TAPER RUN-OFF**  
 NOT TO SCALE  
 C3-4

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CHECKED	DP	DRAWING NO.	REV. B
MFG. APPR.	DP	D058-676-241	SHEET 4 OF 4
APPROVED	DP	TITLE	SCALE
DE APPR.		CROSSTUBE ASS'Y (OH-58 HIGH AFT)	NTS
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# ENGINEERING CHANGE NOTICE

## DART AEROSPACE LTD

Date: 08.11.11	Job No.:	ADR Yes/No: Y	ADR Date: 08.11.11	ECN #: 08- 563
Product No.: D058-676		Created By: <i>[Signature]</i>	Approved By: <i>[Signature]</i>	
Product Name: Crosstubes		Checked By: <i>[Signature]</i>	General Manager Approval:	

Distribution	Reqd	Resp	Initial / Date	Distribution	Reqd	Resp	Initial / Date
Production Manager	Y	LL		DQA / QA Coord	N		
Production Engineering Coord	Y	DD/EC		QC Coordinator	Y	JM	
Production Document Control	Y	JLD		Marketing	<i>[Signature]</i>	<i>[Signature]</i>	
Customer Technical Support	Y	DSTOW		Customer Order Processing	N		

**Reason for Change:**  
 Use Magnobond 6398 on crosstube supports. DSI 9425 indicates the change to the customer.

**Documents Affected:**  
 Release: D058-676-141/-241 Rev B, DSI 9425 Rev A

PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings Under Review	Y	PH		
5	Update Product Compatability Matrix	N			
6	Create Eurocopter Form (FEE)	N			
7	Notify TC / FAA of Change	N			

#	Document Control Actions	Reqd	Resp	Notes	Complete
8	Move Electronic Files	Y	KJ		08.11.13 <i>[Signature]</i>
9	Update Blue/Pink/DSI Folder and Electronic Files	Y	KJ	Add DSI 9425 Rev A to blue file	08.11.13 <i>[Signature]</i>
10	Update Controlled PDF Files	Y	KJ		08.11.13 <i>[Signature]</i>
11	Update Master Document List (MDL)	Y	PH/RF		
12	Update Document Record (DR)	Y	KJ	676 Rev. C	08.11.13 <i>[Signature]</i>
13	Update Product Development Summary	N			
14	Update QSI 021 and/or STC Approval List	N			
15	Update Parts / STC Database	<i>[Signature]</i>	KJ	DSI 9425-0117	
16	Update / Verify ARC Database	<i>[Signature]</i>	KJ		
17	Create / Update Change Record Form	Y	KJ	D058-676-101/-201 now at CHG 002, DSI at CHG 001	08.11.13 <i>[Signature]</i>
18	Create / Update PPP's	Y	KJ	See above	08.11.13 <i>[Signature]</i>
19	Update Document Control Database / Laminated Dwgs	Y	KJ	AS REQUIRED	N/A <i>[Signature]</i>
20	Update Grey Project Binder	Y	KJ	ADR - SENT TO RF/DS FOR SIGNING	
21	Update D-Part/M-Drawing/DSI/DEO Master Binders	Y	KJ		08.11.13 <i>[Signature]</i>
22					
23					

**Description / Action:**  
 - Parts have been added/removed see drawings

D058-676-101 (2 IN STOCK, 1 IN PROD, B 41398)  
 D058-676-201 (2 IN STOCK, 2 IN PROD, B 41399, 41400)

REFERENCE ONLY

ECN Verified & Complete: \_\_\_\_\_ Date: \_\_\_\_\_

Item	Qty -241	Part Number	Description
1	X	D058-676-241	CROSSTUBE ASSEMBLY (OH-58 HIGH AFT)
2	1	D6007-106	CROSSTUBE
3	2	D2891-1	SUPPORT
4	4	D3595-063-395	RUBBER CUSHION
5	4	MS21920-20	CLAMP (OR MS21920-21)
6	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947- 100, TYPE II, CLASS 2 ADHESIVE)

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6007-106  
FINISHED LENGTH = 103.51±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D058-676-241" AND BATCH NUMBER ON  
INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 19.0 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.  
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 12 PASSES. MAXIMUM TUBE FLATTENING DUE  
TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER  
QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE  
THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS  
ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE  
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS  
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT  
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN  
SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED  
05/11/17

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B	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); 0.780/500 WAS 0.700 (ZN B7-3); ADD/REMOVED REF. & ADD TOLERANCES (ZN D7-3, C4-3, C5-3 & D3-3); RELOCATED FLAG #6 (ZN A7-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
A	NEW ISSUE	CP	00.11.17
REV.	0	DESCRIPTION	BY DATE
DESIGN	0	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	0	RF	
CHECKED	0	0	
MFG. APPR.	0	0	
APPROVED	0	0	
DE APPR.	0	0	
DATE	08.11.06	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D058-676-241		REV. B SHEET 1 OF 4	
TITLE CROSSTUBE ASS'Y (OH-58 HIGH AFT)		SCALE NTS	
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8 7 6 5 4 3 2 1

D

C

B

A

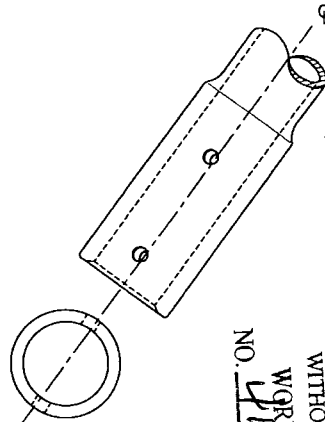
D

C

B

A

C6-2 VIEW A-A: CUFF DETAIL  
SCALE 4X



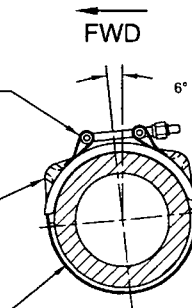
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- 12 D2891-1 SUPPORT  
2 PL
- 15 MS21920-20 CLAMP  
4 PL
- 13 D3595-063-395  
RUBBER CUSHION  
4 PL, (UNDER CLAMP)

D058-676-601

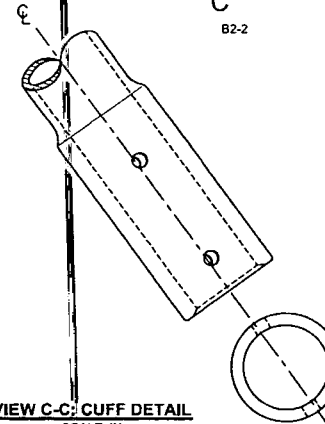
D058-676-241  
ASSEMBLY DETAIL  
(VIEW LOOKING FWD)

- 13 15 MS21920-20 CLAMP REF
- 12 D2891-1 SUPPORT REF
- 13 D3595-063-395  
RUBBER CUSHION  
REF



D5-2 SECTION B-B  
SCALE 5X

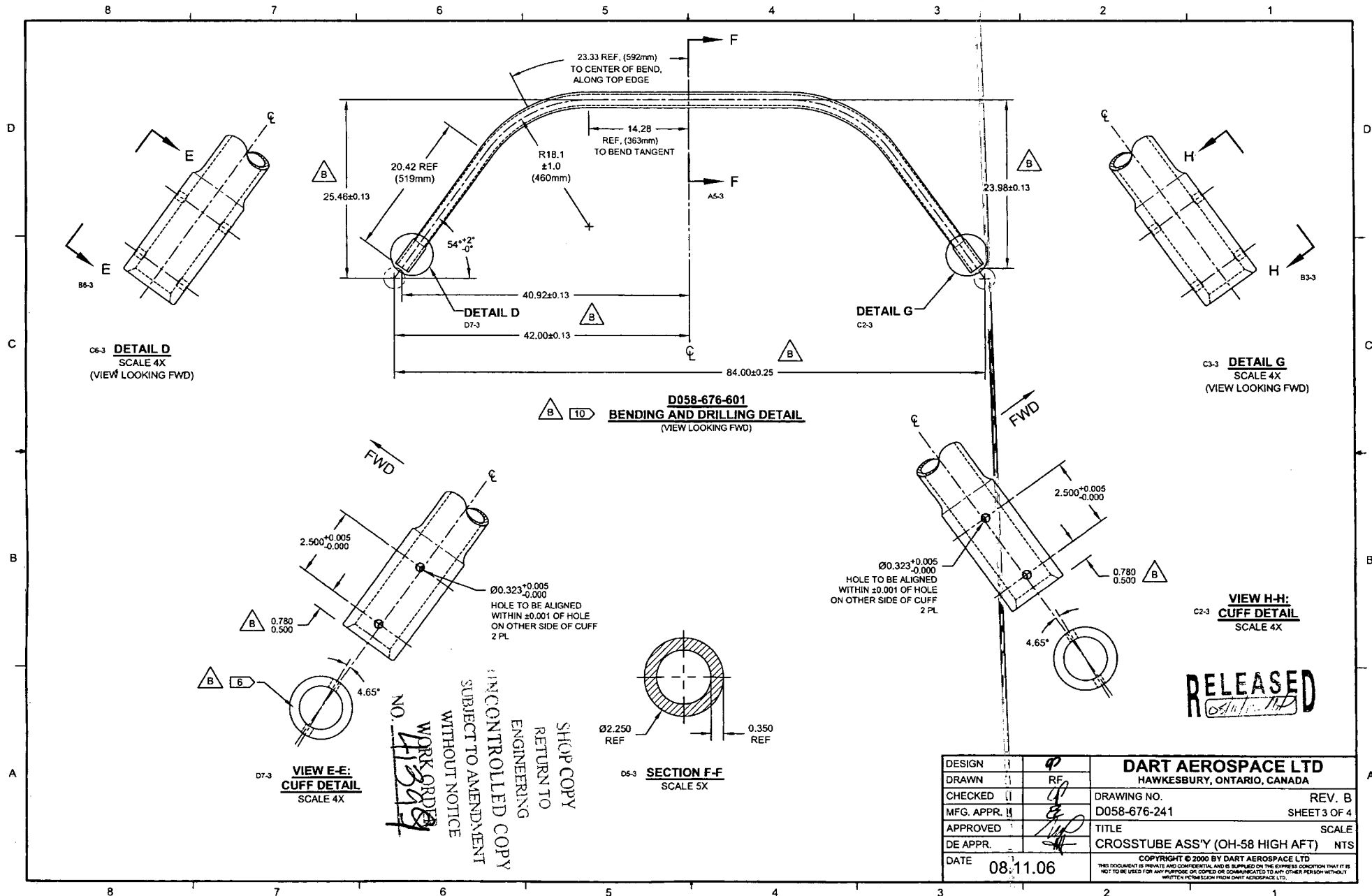
C3-2 VIEW C-C: CUFF DETAIL  
SCALE 4X

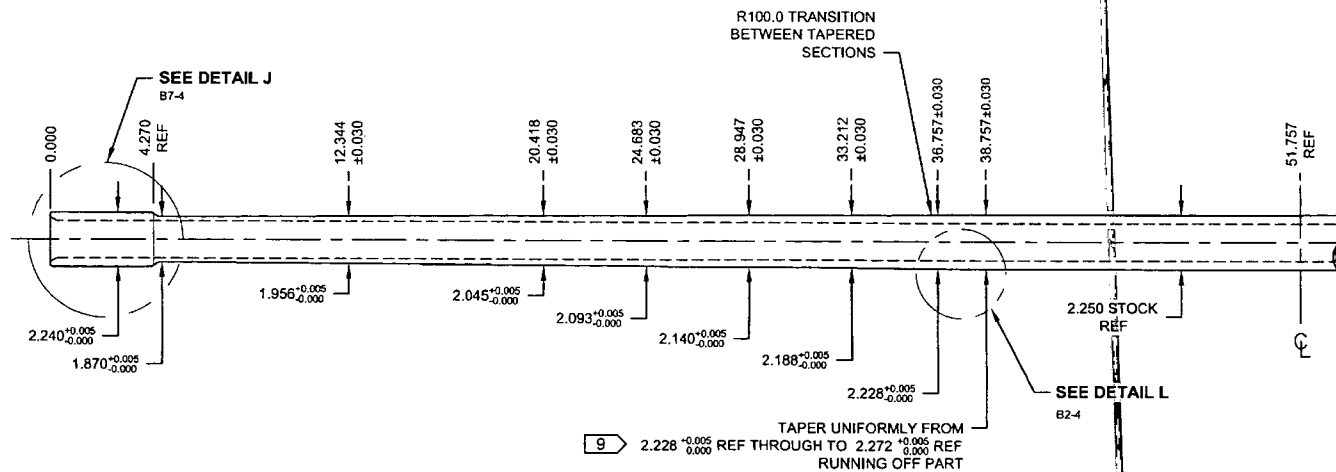


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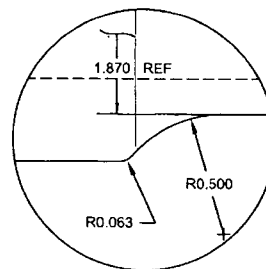
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MFG. APPR.	↓	Q	D058-676-241	SHEET 2 OF 4
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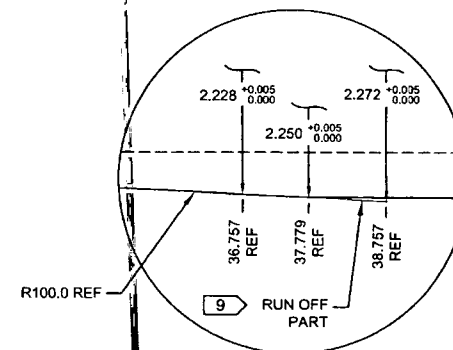




**B TURNING DETAIL**

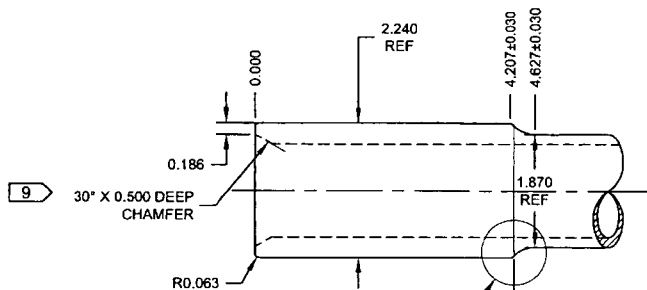


**DETAIL K:  
CUFF TRANSITION**  
NOT TO SCALE



**DETAIL L:  
TAPER RUN-OFF**  
NOT TO SCALE

**RELEASED**



**DETAIL J:  
CROSSTUBE CUFF**  
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APPROVED	1	9	TITLE	SCALE
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